

Improved Constructs for Expressing Lysosomal Polypeptides

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Abstract of the Disclosure

Provided are isolated nucleic acids for expressing lysosomal polypeptides such as lysosomal acid α -glucosidase (GAA) and vectors comprising the same. In one embodiment, the invention provides an isolated nucleic acid encoding a chimeric polypeptide comprising a secretory signal sequence operably linked to a lysosomal polypeptide. In another representative embodiment, an isolated nucleic acid is provided comprising a coding region encoding a GAA and a GAA 3' untranslated region (UTR), wherein the GAA 3' UTR comprises a deletion therein. In another representative embodiment, the invention provides an isolated nucleic acid comprising a coding region encoding a GAA and a 3' UTR, wherein the 3' UTR is less than about 200 nucleotides in length and comprises a segment that is heterologous to the GAA coding region. Also provided are methods of making and using delivery vectors encoding lysosomal polypeptides, for example, to produce the lysosomal polypeptide or to treat subjects afflicted with a deficiency in the lysosomal polypeptide.